

Claims

- [c1] 1. An apparatus for removing contaminants from a surface of an article that may have a static electrical charge thereon, the apparatus being operatively configured for electrically connecting to an electrical ground, the apparatus comprising:
- (a) a cleaning member operatively configured to remove at least some of the contaminants; and
 - (b) an electrically-conductive path extending from the article to the ground when the apparatus is connected to the electrical ground.
- [c2] 2. An apparatus according to claim 1, wherein said cleaning member comprises a brush.
- [c3] 3. An apparatus according to claim 2, wherein said brush comprises an electrically conductive material.
- [c4] 4. An apparatus according to claim 3, wherein said brush comprises a polymer filled with an electrically-conductive material.
- [c5] 5. An apparatus according to claim 4, wherein said brush comprises a carbon-filled perfluoroalkoxyalkane.

- [c6] 6. An apparatus according to claim 1, wherein said cleaning member is part of said electrically-conductive path.
- [c7] 7. An apparatus according to claim 6, wherein said cleaning member is a rotational brush.
- [c8] 8. An apparatus according to claim 1, wherein said electrically-conductive path includes at least one contact that engages the article at a location spaced from said cleaning member during at least a portion of the time said cleaning member is engaged with the article.
- [c9] 9. An apparatus according to claim 8, wherein said cleaning member has a leading side and a trailing side and said at least one contact is located proximate one of said leading side and said trailing side.
- [c10] 10. A method of removing contaminants from a surface of an article that may have a static electrical charge thereon, comprising the steps of:
- (a) cleaning the surface of the article with a cleaning member so as to remove at least some of the contaminants; and
 - (b) during at least part of the time that step (a) is performed, contacting the article with a conductive member connected to an electrical ground.

- [c11] 11. A method according to claim 10, wherein said cleaning member is electrically conductive and step (b) includes contacting said cleaning member with the article.
- [c12] 12. A method according to claim 10, wherein step (a) includes contacting the surface with said cleaning member.
- [c13] 13. A method according to claim 12, wherein step (a) includes brushing the surface with said cleaning member.
- [c14] 14. A method according to claim 13, wherein step (a) includes rotating said cleaning member at least during the time said cleaning member is in contact with the surface.
- [c15] 15. A method according to claim 10, wherein step (b) includes contacting the article with at least one contact spaced from said cleaning member.
- [c16] 16. A method according to claim 15, wherein step (b) includes contacting said at least one contact with said surface.
- [c17] 17. A system for removing contaminants from a surface, comprising:
 - (a) an electronic article and having a surface;
 - (b) a cleaning member operatively configured to remove contaminants from said surface;

- (c) an electrical ground; and
- (d) an electrically-conductive path extending from said article to said ground.

[c18] 18. A system according to claim 17, wherein said cleaning member comprises a rotational brush.

[c19] 19. A system according to claim 18, wherein said rotational brush is part of said electrically-conductive path.

[c20] 20. A system according to claim 17, wherein said electrically-conductive path includes at least one contact that engages said electronic article at a location spaced from said cleaning member during at least a portion of the time said cleaning member is engaged with said electronic article.